



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,093	01/28/2004	Steven M. Bessette	WFG-4380-150	9833

23117 7590 03/24/2008
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

QAZI, SABIHA NAIM

ART UNIT	PAPER NUMBER
----------	--------------

1612

MAIL DATE	DELIVERY MODE
-----------	---------------

03/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/765,093	Applicant(s) BESSETTE, STEVEN M.	
	Examiner Sabiha Qazi	Art Unit 1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1 and 3-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Non-Final Office Action

Claims 1, 3-14 is pending. No claim is allowed at this time. Amendments are entered.

Summary of this Office Action dated March 15, 2008

1. Continued Examination Under 37 CFR 1.114
2. Double Patenting Rejection
3. 35 USC § 103(a) Rejection
4. Response to Remarks
5. Communication

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/07 has been entered.

Double Patenting Rejection

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3, 7 -11 and 14 are rejected under the judicially created doctrine of double patenting over claims 1-9 and specification of BESSETTE (US Patent No. 6,506,707) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: The instant claims are drawn to a method for controlling/killing weeds and grasses by applying a composition comprising thymol and eugenol (clove oil).

US "707 teaches a herbicidal compositions containing plant essential oils and mixtures or blends thereof and herbicidal compositions containing certain plant essential oils. to herbicidal compositions **containing synergistic blends of certain plant essential oils**. The reference also teaches a method for controlling weeds and grasses by the application of pesticidally effective amounts of the herbicidal compositions containing certain plant essential oils and/or synergistic blends thereof to a locus where weed and grass control is desired.

The reference also teaches that the herbicidal composition comprising, in admixture with a suitable carrier and optionally with a suitable surface active agent, a plant essential oil compound and derivatives thereof, including racemic mixtures, enantiomers, diastereomers, hydrates, salts, solvates and metabolites, etc.

Art Unit: 1612

Each plant essential oil or derivative thereof, comprises a monocyclic, carbocyclic ring structure having six-members and substituted by at least one oxygenated or hydroxyl functional moiety. Examples of plant essential oils encompassed include, but are not limited to, members selected from the group consisting of aldehyde C16 (pure), amyl cinnamic aldehyde, amyl salicylate, anisic aldehyde, benzyl alcohol, benzyl acetate, cinnamaldehyde, cinnamic alcohol, .alpha.-terpineol, carvacrol, carveol, citral, citronellal, citronellol, p-cymene, diethyl phthalate, dimethyl salicylate, dipropylene glycol, eucalyptol (cincole), **eugenol**, **iso-eugenol**, galaxolide, geraniol, guaiacol, ionone, d-limonene, menthol, methyl anthranilate, methyl ionone, **methyl salicylate**, .alpha.-phellandrene, pennyroyal oil, perillaldehyde, 1- or 2-phenyl ethyl alcohol, 1- or 2-phenyl ethyl propionate, piperonal, piperonyl acetate, piperonyl alcohol, D-pulegone, terpinen-4-ol, terpinyl acetate, 4-tert butylcyclohexyl acetate, **thyme oil**, **thymol**, metabolites of trans-anethole, vanillin, ethyl vanillin, and the like. As these plant essential oil compounds are known and used for other uses, they may be prepared by a skilled artisan by **employing known methods**.

The reference teaches that a preferred embodiment relates to (1) a herbicidal composition for agricultural and household use comprising a mixture **of eugenol, alpha-terpineol, citronellal, thymol and trans-anethole (2)** to herbicidal compositions for household use for i) broadleaf weed control or ii) total weed and grass control, comprising a mixture of eugenol and 2-phenethyl propionate at various dosage rates and (3) to a herbicidal composition for agricultural and household use comprising a mixture of eugenol and 2-phenethyl propionate synergized by the addition of thymol.

Art Unit: 1612

The herbicidal compositions of the prior art **unexpectedly exhibit excellent herbicidal activities without corresponding issues of toxicity to mankind and the environment** and provide unexpectedly fast action against green plant matter without systemic action against plant roots. The reference further teaches that plant **essential oils disrupt cell membranes in plant tissue, releasing proteins within the plant matter. Alternatively, plant essential oils inhibit amino acid synthesis, and preclude production of certain enzymes which allows the plant cell to produce essential amino acids. Alternatively, plant essential oils may act as photosynthesis inhibitors or pigment inhibitors. Photosynthesis inhibitors prevent the plant's conversion of sunlight into chemical energy required for growth.** Pigment inhibitors prevent production of certain plant pigments that are necessary for photosynthesis. In any event, the net effect of the toxicity and action of the inventive composition disclosed herein is heretofore unknown and unexpected.

The reference further teaches that the composition results in fast, effective weed and grass control, particularly against broadleaf plants. As such, they are advantageously employed as herbicidal agents in uses such as, without limitation, agriculture, defoliants, organic farming, households, lawn and garden, professional pest control, foliage application, solid treatment, soil incorporation application, seedling box treatment, stalk injection and planting treatment, turf and ornamentals, etc.

The reference teaches that the compositions are so chemically inert that they are compatible with substantially any other constituents of the spray schedule. They may also be used in combination with other pesticidally active compounds, including other herbicides.

Art Unit: 1612

The reference further teaches that the herbicidal compositions of the may be employed alone or in the form of mixtures with such solid and/or liquid dispersible carrier vehicles and/or other known compatible active agents, especially plant protection agents, such as other pesticides, or insecticides, miticides, acaricides, nematocides, fungicides, bactericides, rodenticides, fertilizers, growth-regulating agents, etc., if desired, or in the form of particular dosage preparations for specific application made therefrom, such as solutions, emulsions, suspensions, powders, pastes, and granules which are thus ready for use. The herbicidal compositions can be formulated or mixed with, if desired, conventional inert pesticide diluents or extenders of the type usable in conventional pesticide formulations or compositions, e.g. conventional pesticide dispersible carrier vehicles such as gases, solutions, emulsions, suspensions, emulsifiable concentrates, spray powders, pastes, soluble powders, dusting agents, granules, foams, pastes, tablets, aerosols, natural and synthetic materials impregnated with active compounds, microcapsules, coating compositions for use on seeds, and formulations used with burning equipment, such as fumigating cartridges, fumigating cans and fumigating coils, as well as ULV cold mist and warm mist formulations, etc. See the entire document especially lines 12-14, col. 1; lines 19-65, col. 2; lines 32-65, col. 3; examples and claims.

Instant claims are differ from the reference because references teaches a herbicidal compositions containing synergistic **mixtures or blends of certain plant essential oils** and the herbicidal composition for agricultural and household use comprising a mixture of **eugenol (an active component of clove oil)** and 2-phenethyl propionate **synergized by the addition of thymol**. Prior art does not teach clove oil.

Art Unit: 1612

It would have been obvious to one skilled in the art to prepare additional herbicidal compositions containing thymol and eugenol which has been taught by the prior art. Prior art does not teach clove oil however eugenol is an active component of clove oil. One would be motivated to use thymol because prior art teach that addition of thymol synergized the composition containing eugenol. Present invention would have been obvious by the teachings of the specification and claims of US '707.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application, which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 3-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over YU et al.¹ (US Patent 5,811,079), TWORKOSKI (Journal reference: "Herbicide Effects of Essential Oils," *Weed Science*, 50(4): 425-431, 2002), and FAUST, ROBERT H.² These reference teach a composition and method which embraces Applicant's claimed invention. See the entire documents.

Applicants claim

A method of killing weeds and grasses and herbicidal composition comprising an herbicidally acceptable carrier and an herbicidally active ingredient, wherein the herbicidally active ingredient consists of clove oil and thymol.

A herbicidal composition comprising an herbicidally acceptable carrier and an herbicidally active ingredient, wherein the herbicidally active ingredient consists of clove oil and methyl salicylate. Herbicidal composition of claim 1, further comprises humic acid.

¹ YU et al. (US Patent 5,811,079)

YU teaches a composition containing aromatic oils including methyl salicylate, eugenol, iso-eugenol, clove oil, thymol, see lines 12-56 in column 4, lines 4-14 in column 5.

FAUST teaches the use of **humic acid and fulvic acid**. Fulvic acid **increases the absorption**.

See the entire document, especially table on page 2. The use of humic acids or fractions of humic acids for seed soaking or treating have been extensively studied and used in ancient times for medicines and agricultural purposes. The use of fulvic acids for seed treatment and as a foliar spray has potential low-cost benefits for organic, low income and biological farmers. Fulvic acids used as a foliar spray have been shown to **reduce moisture** use by crops by as much as 25%.

TWORKOSKI teaches that clove oil, when applied to a plant, causes severe electrolyte damage and cell death. Furthermore it teaches the composition containing thyme and clove (Table 1 on page 426) and figure 1 on page 427, figure 2 and 3 on page 428 where various concentrations of essential oils are disclosed including **clove and red thyme** and figure 4 and figure 5 on pages 429-430. The reference further teaches that weed shoot control was achieved with cinnamon and **clove**. **Eugenol is a volatile phenol, and this class of compounds essential oils at concentrations of 5 to 10%. Eugenol may be a valuable source of natural herbicides.**

It would have been obvious to one skilled in the art at the time of invention to prepare a composition comprising and clove oil, thymol, methyl salicylate, eugenol because YU teaches compositions containing aromatic oils and TWORKOSKI teaches the use of clove oil as an herbicide. This embraces the presently claimed invention; therefore, the instant invention is

Art Unit: 1612

considered *prima facie* obvious over the prior art. Methyl **salicylate is a flavoring agent (found in oil of Wintergreen)**. Examiner notes, that no example in the disclosure contains **only clove oil and thyme or thyme oil** as cited in amended claims. There are other ingredients. By the combined teaching or prior art cited above the presently claimed subject would have been obvious to one skilled in the art.

Even in a case where the reference does not teach the same use of the composition, the two different intended uses are not distinguishable in terms of the composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill might reasonably infer from the teachings. *In re opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA 1976). A reference is not limited to working examples. *In re Fracalossi* 215 USPQ 569 (CCPA 1982).

Accordingly, the burden of proof is upon applicants to show that instantly claimed subject matter is different and unobvious over those taught by prior art. See *In re Brown*, 173 USPQ 685, 688; *In re Best*, 195 USPQ 430 and *In re Marosi*, 218 USPQ 289, 293.

See KSR Supreme Court of United States Decision (Decided April 30, 2007, KSR INTERNATIONAL CO. v. TELEFLEX INC. et al. No. 04-1350) where it states that “However, the issue is not whether a person skilled in the art had the motivation to combine the electronic control with an adjustable pedal assembly, but whether a person skilled in the art had the motivation to attach the electronic control to the support bracket of pedal assembly”.

² FAUST (<http://www.bioag.com/fulvi-seedtreat.html>)

In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

Response to Remarks

- Applicants have not shown any criticality and/or unexpected results for their invention compared to prior art teaching. Applicant argues that clove oil contains more ingredients Examiner agrees however Examiner does not agree that clove oil is not taught. The invention as claimed is considered obvious over the prior art.
- There is no showing or teaching that present invention as claimed was unexpected at the time the invention was filed. Applicant's arguments were fully considered but are not found persuasive therefore all the rejections are maintained for the same reasons as set forth in our previous office action.
- Double rejection is maintained and would be withdrawn when Applicants will file a terminal disclaimer.
- No example in the disclosure contains only clove oil and thyme oil. There are other ingredients.
- In order to advance the prosecution Applicant may consider calling the Examiner to discuss the issues surrounding this application.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone number is (571) 272-0622. The examiner can normally be reached on any business day except Wednesday.

Art Unit: 1612

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sabiha Qazi/

Primary Examiner, Art Unit 1612